REQUEST FOR QUOTATION (THIS IS NOT AN ORDER)

THIS RFQ ☐ IS ☐ IS NOT A SMALL BUSINESS SET-ASIDE

PAGE 1 OF PAGES 2

1. REQUEST NO.	2. DATE ISSUED	3. REQUISITION/PURCHASE REQUEST NO.	4. CERT. FOR NAT. DEF. UNDER BDSA REG. 2 AND/OR DMS REG. 1	RATING
N00173-12-Q-0369	09/12/2012	55-5069-12		

5a. ISSUED BY
Supply Officer (Code 3410) NRL Washington DC 20375-5329

6. DELIVER BY (Date)
03/01/2013

5b. FOR INFORMATION CALL (NO COLLECT CALLS)

NAME	TELEPHONE NUMBER	
	AREA CODE	NUMBER
Jean Copes	202	404-1714

7. DELIVERY
☒ FOB DESTINATION ☐ OTHER (See Schedule)

8. TO:

a. NAME	b. COMPANY
All Quoters	

c. STREET ADDRESS

d. CITY | e. STATE | f. ZIP CODE

9. DESTINATION

a. NAME OF CONSIGNEE
Naval Research Laboratory

b. STREET ADDRESS
4555 Overlook Ave SW

c. CITY
Washington

d. STATE DC | e. ZIP CODE 20375

10. PLEASE FURNISH QUOTATIONS TO THE ISSUING OFFICE IN BLOCK 5a ON OR BEFORE CLOSE OF BUSINESS (Date)
09/21/2012

IMPORTANT: This is a request for information and quotations furnished are not offers. If you are unable to quote, please so indicate on this form and return it to the address in Block 5a. This request does not commit the Government to pay any costs incurred in the preparation of the submission of this quotation or to contract for supplies or service. Supplies are of domestic origin unless otherwise indicated by quoter. Any representations and/or certifications attached to this Request for Quotation must be completed by the quoter.

11. SCHEDULE (Include applicable Federal, State and local taxes)

ITEM NO. (a)	SUPPLIES/ SERVICES (b)	QUANTITY (c)	UNIT (d)	UNIT PRICE (e)	AMOUNT (f)
	See attached continuation sheet				

12. DISCOUNT FOR PROMPT PAYMENT	a. 10 CALENDAR DAYS (%)	b. 20 CALENDAR DAYS (%)	c. 30 CALENDAR DAYS (%)	d. CALENDAR DAYS NUMBER	d. CALENDAR DAYS PERCENTAGE

NOTE: Additional provisions and representations ☐ are ☐ are not attached.

13. NAME AND ADDRESS OF QUOTER

a. NAME OF QUOTER

b. STREET ADDRESS

c. COUNTY

d. CITY | e. STATE | f. ZIP CODE

14. SIGNATURE OF PERSON AUTHORIZED TO SIGN QUOTATION

15. DATE OF QUOTATION

16. SIGNER

a. NAME (Type or print)

b. TELEPHONE AREA CODE NUMBER

c. TITLE (Type or print)

AUTHORIZED FOR LOCAL REPRODUCTION
Previous edition not usable

STANDARD FORM 18 (REV. 6-95)
Prescribed by GSA-FAR (48 CFR) 53.215-1(a)

STANDARD FORM 36 JULY 1966 GENERAL SERVICES ADMINISTRATION FED. PROC. REG. (41 CFR) 1-16.101	CONTINUATION SHEET	REF. NO. OF DOC. BEING CONT'D	PAGE OF
		N00173-12-Q-0369	2 11

NAME OF OFFEROR CONTRACTOR

All Quoters

ITEM NO.	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
001	Study of Orbital Angular Momentum for Communications: Demands for increased information and data exchange have placed new pressure on radio frequency communication channel bandwidth limitations. Conventional electromagnetic communication does not exploit an inherent but neglected property of radio wave propagation, called Orbital Angular Momentum (OAM). Successful development of communication systems that can take advantage of OAM can lead to potentially greater information transfer within existing channel resources. Under this task, the contractor shall determine the feasibility of employing OAM techniques of Naval communication systems to reduce the probability for the mitigation of disruptive channel effects such as multi-path and co-channel interference. Specific tasks under this statement of work include: The contractor shall review available scientific literature on the subject of OAM with an emphasis on its use for communications purposes. Naval Research Laboratory (NRL) intends to use MALAB model to evaluate the generation and propagation of OAM waves in typical Naval environments. The contractor shall provide input for this model in the form of modules or other software code additions that generate the OAM waveforms for the model. The contractor shall use results from the NRL model in comparison with theoretical or empirical results reported in the literature to develop predictions of system performance and to revise the model, where appropriate to remain consistent with reported capabilities and to adapt the model in response to initial results. The contractor shall support NRL in the development of the design for a realistic OAM test bed by calculation and design of the specific feed system for these antenna arrays. The contractor shall organize results of the study into a document with NRL, reporting the feasibility of this technique for future Naval communication use. The report shall include details of the preliminary design and recommendation on how to proceed. Deliverables under this task include: Presentation materials in Power Point format describing contractor's progress and specific engineering designs. Materials shall be provided one week in advance of scheduled sponsors reviews. NRL shall provide the review schedule to the contractor upon receipt of the schedule from the sponsor.	400	hr		

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		N00173-12-Q-0369	2 a 11

NAME OF OFFEROR CONTRACTOR

All Quoters

ITEM NO.	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
cont.	Executable software of simulations developed to support the design and analysis of this capability. Final Report containing results of the study, the preliminary design and recommendation for continued development. The period of performance will be determined at the time of award and continue for 6 months. Qualifications of offerer: Greater than 25 years' experience in antennas, antenna arrays, and antenna experimentation. Experience with both theoretical investigations and real-world experimentation with planar phased arrays. Particular emphasis is given to those with experience applying OAM phasing to actual arrays. Experience in calculation of the radiation pattern and electric field components for a planar phased array with arbitrary antenna geometry and phasing. Applicable experience would include using this software to generate OAM waveforms. Experience in developing beam pattern software for visualization of electromagnetic radiation. If available please include a published price list or a cost breakdown and return the RFQ package to the following fax number (202) 767-0685 or email to jean.copes@nrl.navy.mil. Any questions concerning this Request for Quotation (RFQ) must be e-mailed to SolQnA@nrl.navy.mil at least five (5) days before the closing date shown in block 10 on page 1 of RFQ.				